

What is claimed is:

1. A filter comprising:
 - a permeable core;
 - a layer of filter media surrounding the core;
 - a top end cap covering and extending over the top end of the core;
 - a bottom end cap extending over and in fluid communication with the bottom end of the core providing a fluid outlet from the filter;
 - a first barrier that is a sleeve surrounding the filter media layer around the core, which sleeve extends from one of the top end cap and the bottom end cap and does not extend the entire length between the top end cap and bottom end caps;
 - a second barrier that is a sleeve spaced from the first barrier having a second layer of filter media disposed between the first barrier and the second barrier, said second barrier not extending the length of the filter from the top end cap to the bottom end cap with the gap on the opposite end of the filter from the gap created by the first barrier; and
 - a third layer of filter media surrounding the outside of the second barrier.

2. A filter of claim 1 further comprising a top end cap and a bottom end cap retaining the filter media and the permeable core.

1 3. A filter of claim 1 further comprising a retaining material surrounding the filter media
2 surrounding the outside of the second barrier.

1 4. A filter of claim 1 wherein the filter media is a combination of pleated filter media
2 surrounding the outside of the second barrier, granular media disposed between the first barrier and
3 second barrier, and pleated media surrounding the central core.

1 5. A filter of claim 4 wherein a polymer mesh surrounds the pleated filter media layer
2 and extends substantially the length from the top end cap and the bottom end cap.

3 6. A filter of claim 1 wherein the permeable core is permeable toward one end of the
4 filter.

5 7. A filter comprising:
6 a permeable core;
1 a layer of filter media surrounding the core;
2 a top end cap covering and extending over the top end of the core;
3 a bottom end cap extending over and in fluid communication with the bottom end of
4 the core providing a fluid inlet from the filter;



1 a first barrier that is a sleeve surrounding the filter media layer around the core,
2 which extends from the top end cap and the bottom end cap and through a
3 fluid permeable area of the sleeve toward one end of the filter;
4 a second barrier that is a sleeve spaced from the first barrier having a second layer
5 of filter media disposed between the first barrier and the second barrier, said
6 second barrier having a fluid permeable area of the sleeve on the end of the
7 second barrier on the end of the filter opposite to the permeable part of the
8 first barrier; and
9 a third layer of filter media surrounding the outside of the second barrier.

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1 11. A filter comprising:
2 a filter media for filtering fluid;
3 a permeable core in the filter media, said filter media surrounding the core;
4 a top end cap covering the filter media and affixed to the top end of the core;
5 a bottom end cap covering the filter media and in fluid communication with the
6 bottom end of the core; and
7 a first barrier and second barrier that are sleeves disposed in the filter media and
8 spaced from each other that extend from the top end cap to the bottom end
9 cap that have a fluid permeable portion towards opposite ends relative to the
10 top end cap and the bottom end cap creating a flow path through the media
11 from one end to the other.

12. A filter of claim 11 further comprising:
13 at least one additional barrier that is a sleeve disposed in the filter media spaced from
14 the first and second barrier that has a fluid permeable portion towards one
15 end of the sleeve.

1 13. A filter of claim 12 wherein the permeable core is permeable toward one end of the
2 filter.

- 1 14. A method of filtering a fluid comprising the steps of:
- 2 placing a selected fluid under pressure;
- 3 confining the fluid under pressure in the filter during the filtering process;
- 4 flowing the fluid through a layer of filter media;
- 5 allowing the fluid to pass through a permeable portion at the end of the first barrier;
- 6 flowing the fluid in a path containing filter media between a first and second barrier;
- 7 allowing the fluid to pass through a permeable portion of the end of the second
- 8 barrier at the end of the path containing filter media; and
- 9 collecting the filtered fluid in an outlet of the filter after the fluid has flowed through
- 10 the permeable portion of the second barrier.
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- 15 15. A method of filtering a fluid of claim 14 further comprising adding the steps of:
- 16 flowing the fluid in a path containing filter media between the second barrier and at
- 17 least a third barrier wherein the third barrier has a permeable portion at one
- 18 end through which the filtered fluid can pass; and
- 19 collecting the filtered fluid after the fluid has flowed through the permeable portion
- 20 of the third barrier.